

Amendments to the Specification

Please replace the paragraph beginning on page 6, line 5 with the following amended paragraph:

A baseline detector or sensor chemical agent simulation 25 may be designed for calculation of synthetic chemical agent signatures utilizing background scene measurements obtained with an arbitrary sensor 21 of Figure 2. A measurement may be transformed into a synthetic representation of the sensor data that would be obtained with a possibly distinct sensor, utilizing chemical agent absorptivity coefficients, specifications for the sensor's sample comb, the scene configuration and the signal-to-noise ratio of sensor 21. The baseline simulation configuration for signature synthesis is shown in Figure 2 with radiance (N_{C1}) and transmission (τ_{C1}) of the front cloud slab C1 91, radiance (N_{C2}) and transmission (τ_{C2}) of the back cloud slab C2 92, the background of the scene with radiance (N_B) and foreground (N_F, τ_F).